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ABSTRACT

A one semester high school industrial English course emphasizes the reading, writing, and speaking skills that relate to improved performance and understanding of vocational concepts. The course, particularly valuable for students who do not plan to attend college, is built around 15 units, which are varied according to student needs. The units involve students in writing for different audiences, writing memoranda, writing business letters, planning careers, preparing forms and letters used in applying for jobs, preparing for personal interviews, working with business forms, practicing effective oral communication and business telephone conversations, taking notes and outlining, using illustrations in reports, writing descriptions of mechanisms, preparing instructions and process descriptions, writing definitions of words, writing different types of reports, and writing a major report. (A copy of the personal inventory form given to students at the beginning of the course is included.) (GW)

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"DEVELOPING A HIGH SCHOOL TECHNICAL WRITING COURSE"

Jerald M. Kantrovich

INTRODUCTION

Some college and university teachers and professionals in the field of technical communications may doubt that technical English should be taught on a high school level. Some may think that high school students don't have enough technical knowledge to benefit from such a course. Here are the objectives of our one semester (18-19 week) course in Industrial (technical) English at Maine Township High School and some background on why and how, this technical communication course was developed for our high school.

WHY A HIGH SCHOOL TECH COURSE

Four years ago I was asked by my department chairman to develop a technical writing program for the student who was enrolled in industrial education or in job-related courses and who was probably not going on to a four-year college. Now, I have students taking the course who plan on going into engineering, medicine, accounting, business, and so forth. Emphasis is given to those reading, writing, and speaking skills that relate to improved performance and understanding of vocational concepts. The student will discuss and will write about the career or careers in which he is interested, describe and relate procedures, write concise technical reports, prepare resumes for job applications, write various business and employment letters, give a variety of types of speeches, and fill out different types of business forms.

Another reason why I have developed Industrial English and why I believe it should be taught is because of a report released by the Bureau of Labor Statistics. According to this report twenty percent of all jobs will require a college degree, seventy-six percent will require

some form of technical training, and four percent will call for untrained workers by 1980. By the year 1985, according to this report, twenty-five percent of the work force will have college degrees with only twenty percent of the jobs requiring a degree. Furthermore, according to the report, eight out of every ten jobs will be open to persons with less than a college degree in areas such as mid-management and technology and related programs. Most of the training will come from the two-year terminal program, the trade, technical, or business school, the apprentice program, or by on-the-job training. Since many of these schools or programs do not teach any technical English, business and industry will probably have to rely on a high school technical communication course. This, in no way, should threaten the existence of any college-level technical English course. There will still be many students taking two-year, four-year, and beyond college programs.

MAJOR EMPHASIS OF INDUSTRIAL ENGLISH

The major emphasis of the Industrial English program is on functional writing, writing that is necessary on the job, rather than on creative writing. As you can see from the course outline, it seems as though the class covers a large amount of work in 18-19 weeks. The class may not cover all material in every unit because I try to have the class do the work where it needs the most help. How much is covered depends a lot on two questions I have the students answer from a personal inventory sheet, "What do you expect to learn from Industrial English?" and "What do you have to improve upon in English?" Sequence of units in the course is varied to take advantage of special events and opportunities.

COURSE OUTLINE - INDUSTRIAL ENGLISH

Unit	Material
1	Effective Writing
2	Memorandums
3	Business Letters
4	Career Planning
5	Employment Forms and Letters
6	Personal Interview
7	Business Forms
8	Oral Speaking and Business Telephone Conversation
9	Note-taking and Outlining
10	Illustrations
11	Description of Mechanisms
12	Instructions and Process Description
13	Definitions
14	Report Writing
15	Library Report Writing

EFFECTIVE WRITING

The student learns to write for the reader in this unit, not for himself. He also learns to write in a concise manner. Because the readers of a report differ in background such as education, training, experience, likes and dislikes, the student learns to satisfy all levels of readers. The student learns that if he explains too little and defines too few terms he could lose the casual reader, but if the student details too much information he could lose the serious, specialized reader. When my students do a writing assignment, the age and level of knowledge of the target readers group is specified. The will then write a paper, maybe describing a mechanism in their technical field of interest, for a sixteen-year-old female who has no technical knowledge. Next they will describe that same mechanism for a college graduate who has a major in the high school student's technical field of interest. The class also covers punctuation, spelling,

handwriting, and paragraphing in this unit.

MEMORANDUMS

Because memo writing is the most commonly used form of writing in business and industry, the class covers this unit. They learn that companies can become over Memorized and that memos should be used only when there is a definite reason to do so. The students evaluate actual memos. They check each one for spelling, punctuation, and grammar and rate the memo on whether the message is clear. The students then discuss the good points of the memo and how it could be improved. Finally, the students will rewrite each of the memos following the techniques of good memorandum writing. Eventually the students design their own memo form and write an original memo message.

BUSINESS LETTERS

One of the most practical ways of sending information to another person or to a company is through the means of a business letter. The students work on various types of business letters such as the order letter, adjustment letter, and inquiry letters. Again the students study actual business letters and try to improve them. The students learn the seven basic parts of the letter, layout formats (block, full block, indented, and modified block), rules for margins, and the miscellaneous parts of a letter such as the enclosure line, carbon copy line, subject line, etc. One of the main things I teach the students about writing a letter is to keep it neat and pleasing to the reader--in other words, error free and legible if handwritten. Another key idea I try to teach the students concerns the adjustment or complaint letters that they might

write themselves. That idea is to be courteous because a place of business will more readily respond to a letter that is pleasant rather than to one that is uncomplimentary. They are told that when they are frustrated or angry to write a letter that really shows their emotion, read it several times, tear it up and throw it away. Then they can write an effective letter of rational complaint or get an adjustment.

CAREER PLANNING

Because so much of technical writing involves writing done on the job, I spend a week or so talking to the students about careers and the importance of choosing the right career because most students do not give enough serious attention to the all-important decision of selecting a career. In the years I have taught the Industrial English course, I have found that 75-85% of the juniors and seniors have no idea of what they want to do when they graduate from high school. Our career counselor at Maine South also talks to the students about careers and the importance of selecting careers that fit their personality, likes and dislikes. The students then do a three to five-page paper on a career field that they may have an interest in, and they also write about related fields that could fit in with their career choice. From this point on, the rest of the papers center on the career choice of the student.

EMPLOYMENT FORMS AND LETTERS

Next the class starts to discuss the unit on applications, resumes, and letters written in conjunction with job seeking: application, inquiry,

acceptance, rejection, and thank you. Again there are handouts or transparencies used to show actual examples of each type of employment form and job letter. This unit is covered because each of the employment forms and letters can make a difference whether or not a student upon graduation from high school can obtain a job or get an interview for a position that is open.

The students will fill out an application, write a letter of application, and prepare a resume. Two features that I believe are necessary in a resume are the job objective or goal and a short summary of each of the courses that a student is taking or has taken that pertains to his future career. The job objective should not state that "I want to become a supervisor or manager." But should state that "I want to be the best in my chosen career." The students are taught that not everyone can be a boss, but everyone can try to do his best. Short summaries of a course or of courses that pertain to a job being applied for are necessary because few companies know the exact content of a course of study. The students also explain what they can actually do as a result of having completed the course. This is done by explaining what skills they have learned in the course. I try to teach the students that they have to rely on their educational background to obtain a job because they usually do not have the necessary work experience to qualify for a position.

PERSONAL INTERVIEWING

Follow up to the unit on employment forms and letters is provided in the unit on personal interviewing. The students learn how to prepare physically and mentally for a job interview. Typical questions that may be asked in an interview are discussed. I try to teach my students to expand on answers to any questions that are asked, but they are also taught not

to give an oration for each of their answers. Many teachers ask, "What does personal interviewing have to do with Technical English?" A person who is being interviewed had better have good oral skills or he may not be getting a job. Interviewers want to see if an applicant can communicate orally under pressure. Instead of communicating to a reader, a student is now trying to communicate effectively to a listener. The students in Industrial English conduct a 10 to 15-minute mock interview. According to most personnel directors, it is not the application or resume that gets most people hired, it is the personal interview. the application and resume just helps a person get his foot in the door. Many of my students have come back to see me and tell me that one of the most important units covered in the course was the unit on interviewing.

BUSINESS FORMS (PRINTED REPORT FORMS)

No matter where someone works, he will be working with some type of form from the time he is hired until he is retired. Students get a chance to work with various types of business forms in class. Students discuss forms covering union membership enrollment, insurance enrollment, work orders, sales orders, verbal orders, and work requests. Also job bid, accident report, requisition, and travel expense forms are discussed. The students are then given problems to the directions.

ORAL COMMUNICATION AND BUSINESS TELEPHONE CONVERSATION

Effective speaking is important from the moment a person has a job interview to the time when a job promotion may come through. I have been told by personnel directors that some employees have not been promoted because of poor speaking skills. My students are taught that effective speaking is similar to effective writing, but that in effective speaking they should try to communicate their message to a listener instead of to

a reader. An employee can have all the technical knowledge in the world, but if he cannot orally communicate his thoughts to his employer or to his fellow employees, he may never be promoted. The students are taught that the primary goal in oral communications is to be understood. Besides the personal interview and the speech on instructions, the student will prepare a 5 to 10-minute speech on something in his technical field and he must use some audio-visual aids. Students also learn the rules for good business telephone calls. They learn to use the telephone in a quick, efficient manner because time means money to a company. The students then do a short original business telephone conversation skit using the rules of good telephone etiquette.

NOTE-TAKING AND OUTLINING

The unit on note-taking and outlining is important in the organization of ideas, the evaluation of resource materials, the separation of fact from opinion, the ensurance that a report includes all of the required parts, and that the report is organized in a logical manner. Because note-taking and outlining are usually written for the writer's own use, the emphasis is on the student as his own audience instead of a special reader being the student's audience. Students practice taking notes from various sources, and then they make an outline from their notes. Each student selects the outline form he prefers to use for his notes--Roman numeral, Arabic, decimal, or capital letter. What surprises me is that most students use the decimal system which is probably the most difficult of the outline methods. According to my students, they select the decimal outline because it looks more "technical".

ILLUSTRATIONS

The students are taught that illustrations can enhance a paper. They also learn which kind of graphic best conveys certain kinds of information for the intended reader. Because illustrations can adequately express and explain how an object looks and can add interest and visual attractiveness to a report, the students are taught that visual aids should not be used just to fill up space. The students are taught that illustrations have the same purpose as the written word; that purpose being the communication of information to their readers. My students also learn how to caption and label an illustration. From this point, the student then do various types of graphics that pertain to their technical or career field. For example, they do graphs, charts, and tables; cutaway, exploded view, process, and line drawings; and schematic and flow diagrams.

DESCRIPTION OF A MECHANISM

Descriptive papers are the easiest papers to write for my students. They usually write two descriptive papers; the first one involves the physical characteristics of a mechanism such as the size, shape, materials, color, texture, and weight. This paper must pertain to the student's technical field. The second paper involves general and specific descriptions. I try to teach the students the difference between a general and specific description, then the students write a general description of a mechanism in their career or technical field. They then write a specific description of the same mechanism. Both the general and specific descriptions are given to the students' classmates to see if they can distinguish the difference between both descriptions. We then have a general discussion on the papers centering on how each paper can be improved. When the student

gets his paper back, he has one day to either rewrite the two descriptions or to keep them the same, then they are handed in to me.

INSTRUCTIONS AND PROCESS DESCRIPTION

Two other types of technical writing discussed are instructions and process description. The students learn that instruction writing tells how to do something and that process writing tells how something is done or works. Verbs are emphasized as playing an important part in these types of writing - an instruction paper uses imperative verbs; a process paper uses gerunds. Activities range from the writing of either an instruction or a process paper to the giving of a speech on how to do something. He or she also writes a set of instructions for someone to perform a procedure or certain steps relative to the student's technical field. Then the student writes a process paper on the same topic that his "how to" paper was written about.

DEFINITIONS

The unit on definitions helps to give precise meanings to words not understood and helps explain the different usage of a word. Students learn about item (the word itself), class (where the item belongs--chair belongs to furniture), and differentiation (the distinguishing characteristics of items from other items of the category). Each student then will define five words from his technical field, each with a different level of specialization. Eventually the student will take one of the words and he will write an extended definition.

REPORT WRITING

Because so many reports written by an employee on the job are short and informal, my students study the field report, progress report, laboratory test report, and job description. The students learn how to organize these various reports. Again they see examples of these reports and evaluate them. Ther the students may rewrite the examples. Finally, the student will write one field, progress, and lab report and a job description. Even though my students may not go on to college, they may still end up writing one of these reports in their chosen career field.

LIBRARY REPORT WRITING

Usually the last writing unit will be the one on major report writing. The class discusses the organization of the paper and the parts of a major technical paper such as the abstract, bibliography, endnotes, appendix, so on. In the process students learn how to use various library resources from the microfilm file to the Reader's Guide to Periodical Literature. The student cannot use an encyclopedia as a source of information unless it is a technical encyclopedia. He must use at least three illustrations in his paper, and the student needs to use at least one direct quotation and one paraphrase in his paper. All note cards, rough drafts of the outline, letter of transmittal, and report must be turned in to me.

SUMMARY

Even though my students are in high school, I have found out that they have enough technical knowledge to benefit from such a course. I do not have to worry about the students lacking for a topic to write or to speak about because they are juniors and seniors who have taken a number of courses in science,

mathematics, home economics, business, and industrial education. Many also have jobs after school and they write about topics related to their jobs. In fact, my students usually suggest possible topics for them to write or speak about. One of my "D" students from last semester paid the Industrial English course a compliment when I overheard him tell his friend, "You can get as much out of the Industrial English course as you put into it. Even though I received a "D", I learned a lot from the course."

Hopefully, you will now better understand the objectives and the development of the Industrial (technical) English course at Maine South. I try to show my students that effective writing and effective speaking are positive activities, that technical English involves effective communication, and that the report or speech they give frequently becomes the readers or listener's image of them.

More and more high schools throughout the country are offering technical communication courses in their curriculum. These schools have also realized that there is a need for a student who doesn't go to a two or four-year college to have a course in technical communications.

Attachment - Personal Inventory for Industrial English

PERSONAL INVENTORY FOR INDUSTRIAL ENGLISH

1. Fill in the following information: Name _____

ADDRESS _____ PHONE NO. _____

PARENT'S/GUARDIAN'S NAME _____

COUNSELOR _____ GRADE PRESENTLY IN _____

Please answer on a separate sheet of paper:

2. Describe your strengths and weaknesses.
3. What motivates you?
4. What do you feel confident in doing?
5. What must you improve upon?
6. What kind of parttime work have you had?
7. Describe what you did or what you are doing in your parttime job.
8. How did you get your job--personal contact, want ad, school counselor, so forth?
9. If you have ever filled out an application form, what can you remember about it?
10. Have you ever had a job interview? What types of questions were asked of you?
11. What do you plan on doing when you graduate from high school?
12. If you plan on going to school after high school, what kind of school will you go to? (2 year or 4 year college, technical, or vocational school, trade school, etc.)
13. What do you look for in a job?
14. What kind of job do you want? What are the qualifications for the job?
15. What subject do you like the most in school? The least? Why?
16. What are your personal goals in education and learning?
17. What courses have you taken in high school that will help you in your future career?
18. What hobby(ies) do you have? Can your hobby lead to your future career?
19. What extra-curricular activities are you involved in?
20. List five books that you have read outside of assigned school readings, within the last two years.
21. What magazines do you read?
22. What do you expect to learn from industrial English?
23. What do you have to improve upon in English?
24. What do you plan on doing ten years from now?
25. Define technical writing.